

STIC Search Report

EIC 1700

STIC Database Tracking Number: 207551

TO: Elizabeth Robinson

Location: REM 6A34

Art Unit : 1773

November 20, 2006

Case Serial Number: 10/826565

From: Mei Huang

Location: EIC 1700

REMSSEN 4B28

Phone: 571/272-3952

Mei.huang@uspto.gov

Search Notes

Examiner Robinson,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

Banks, Kendra

207551

From: ELIZABETH ROBINSON [Elizabeth.Robinson@uspto.gov]
Sent: Wednesday, November 15, 2006 4:00 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10826565

Requester:
ELIZABETH ROBINSON (P/1773)
Art Unit:
GROUP ART UNIT 1773
Employee Number:
83081
Office Location:
REM 06A34
Phone Number:
(571)272-7129
Mailbox Number:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr

NOV 16 RECD

Pat. & T.M Office

Case serial number:
10826565
Class / Subclass(es):

Earliest Priority Filing Date:
4/16/2004

Format preferred for results:
E-mail

Search Topic Information:

In Claim 1 of application 10/826,565, two compounds are specified, MO(OOH).sub.x and M (OOH).sub.y, where M is a metal and x and y are 2, 3, 4, or 6. I am trying to find out what the proper chemical name of these substance are particularly for the metal Titanium (Ti) and with the subscripts 2 and 4. If information cannot be found with titanium as the metal, the other preferred metals in the application were Platinum (Pt), Selenium (Se), Tin (Sn), Zirconium (Zr), and Hafnium (Hf). I am also interested in any known properties of these compounds particularly color and most particularly with particle sizes in the nanoparticle range of less than 10 nanometers.

Special Instructions and Other Comments:

You can reach me by email or by phone 2-7129. My usual hours are from 8 to 4:30 if morning traffic wasn't too bad.



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 Alexandria, Virginia 22313-1450
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Bib Data Sheet

CONFIRMATION NO. 2117

SERIAL NUMBER 10/826,565	FILING OR 371(c) DATE 04/16/2004 RULE	CLASS 428	GROUP ART UNIT 1773	ATTORNEY DOCKET NO. 620-011776-US (PAR)	
APPLICANTS John W. Andrews, Madison, CT;					
** CONTINUING DATA *****					
** FOREIGN APPLICATIONS *****					
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 06/28/2004					
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after met Allowance Verified and Acknowledged Examiner's Signature _____ Initials _____		STATE OR COUNTRY CT	SHEETS DRAWING 0	TOTAL CLAIMS 101	INDEPENDENT CLAIMS 3
ADDRESS 2512					
TITLE Metal peroxide films					
FILING FEE RECEIVED 2358	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not** found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

=> fil reg

FILE 'REGISTRY' ENTERED AT 19:09:14 ON 17 NOV 2006
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=> d his nofile

(FILE 'HOME' ENTERED AT 11:45:25 ON 17 NOV 2006)

FILE 'HCAPLUS' ENTERED AT 11:45:35 ON 17 NOV 2006

L1 1 SEA US2005234178/PN

FILE 'REGISTRY' ENTERED AT 11:46:38 ON 17 NOV 2006

L2 43 SEA (12030-85-2/BI OR 12036-10-1/BI OR 12047-27-7/BI OR
L3 1 SEA 866891-24-9/RN
L4 1 SEA 866891-06-7/RN
L5 1 SEA 866891-20-5/RN
L6 1 SEA 866891-18-1/RN
L7 1 SEA 866891-16-9/RN
L8 1 SEA 866891-14-7/RN
L9 1 SEA 866891-13-6/RN
L10 1 SEA 866891-12-5/RN
L11 1 SEA 866891-11-4/RN
L12 1 SEA 54615-43-9/RN
L13 1 SEA 866891-26-1/RN
L14 1 SEA 866891-10-3/RN
L15 1 SEA 866890-99-5/RN
L16 1 SEA 866891-00-1/RN
L17 1 SEA 866891-01-2/RN
L18 1 SEA 866891-02-3/RN
L19 1 SEA 866891-03-4/RN
L20 1 SEA 866891-04-5/RN
L21 1 SEA 866891-05-6/RN
L22 1 SEA 866891-06-7/RN
L23 1 SEA 866891-07-8/RN
L24 1 SEA 866891-08-9/RN
L25 1 SEA 866891-09-0/RN

FILE 'HCAPLUS' ENTERED AT 14:05:04 ON 17 NOV 2006

L26 14 SEA (L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR
L11 OR L12 OR L13)
L27 2 SEA (L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR
L21 OR L22 OR L23 OR L24 OR L25)
L28 1 SEA L26 AND L27

FILE 'REGISTRY' ENTERED AT 14:13:11 ON 17 NOV 2006

L29 299424 SEA (T1 OR T2 OR T3 OR LNTH)/PG (L) 3/ELC.SUB
L30 2895210 SEA (A3 OR A4 OR A6)/PG (L) 3/ELC.SUB
L31 136641 SEA (L29 OR L30) AND 1-6/H AND 2-12/O
L32 25 SEA L2 AND L31

FILE 'HCAPLUS' ENTERED AT 14:34:56 ON 17 NOV 2006

L33 1649565 SEA L31
L34 QUE METAL(2A) PEROXIDE#
L35 15 SEA (L26 OR L27) AND L33
L36 588 SEA L33 AND L34
L37 QUE SOLUTION# OR SOLN#
L38 203 SEA L36 AND L37

L39 167973 SEA NANOPARTICL? OR NANOPARTICULAT? OR NANOSCAL? OR
NANOSTRUCTURE? OR NANOCHEM? OR NANOSIZ? OR NANOTUB? OR
NANOMATERIAL? OR NANO(A) (PARTICL? OR PARTICULAT? OR
SCAL? OR STRUCTURE? OR CHEM? OR SIZ? OR TUB? OR MATERIAL?
)
L40 2 SEA L38 AND L39
L41 4 SEA L36 AND L39
L42 QUE PROCESS? OR METHOD# OR MANUFACTUR? OR MFR# OR
PRODUC? OR MAKE OR MAKES OR MADE OR MAKING OR PREPAR? OR
PREPD# OR PROCEDURE#
L43 155 SEA L38 AND L42
L44 106 SEA L34 (5A) L37
L45 22 SEA L43 AND L44

FILE 'REGISTRY' ENTERED AT 15:51:48 ON 17 NOV 2006

L46 4450 SEA M/ELS AND PEROXIDE#
L47 360 SEA L46 AND H/ELS AND 3/ELC.SUB
L48 239 SEA L46 AND 2/ELC.SUB
L49 599 SEA L47 OR L48
L50 1024 SEA M/ELS AND ?HYDROPEROXY?/CNS
L51 84 SEA L50 AND 3/ELC.SUB

FILE 'HCAPLUS' ENTERED AT 15:57:17 ON 17 NOV 2006

L52 173025 SEA L49
L53 67 SEA L51
L54 8662 SEA (L52 OR L53) AND L39
L55 1856 SEA L54 AND L37
L56 1 SEA L55 AND L44
L57 1 SEA L55 AND L34
L58 QUE (AQ# OR AQUEOUS? OR H2O OR WATER?) (2A) (SOLUTION? OR
SOLN#)
L59 536 SEA L54 AND L58
L60 43471 SEA ("COATING(S)"/CV OR COATINGS/CV)
L61 133630 SEA "COATING PROCESS"/CV
L62 285157 SEA "COATING MATERIALS"/CV
L63 40 SEA L59 AND (L60 OR L61 OR L62)
L64 4 SEA L40 OR L41
L65 21 SEA L45 NOT L64
L66 40 SEA L63 NOT (L64 OR L65)
L67 59 SEA L34 (2A) (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
OVERLAID? OR LAMIN? OR LAMEL? OR (MULTILAYER?) OR SHEET?
OR LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR
VENEER? OR SHEATH? OR COVER? OR ENCAS? OR OVERSPREAD? OR
CLAD?)
L68 75 SEA L34 (3A) (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
OVERLAID? OR LAMIN? OR LAMEL? OR (MULTILAYER?) OR SHEET?
OR LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR
VENEER? OR SHEATH? OR COVER? OR ENCAS? OR OVERSPREAD? OR
CLAD?)
L69 9 SEA L68 AND L58
L70 1 SEA L68 AND L39
L71 10 SEA L69 OR L70
L72 9 SEA L71 NOT L64
L73 40 SEA L66 NOT (L64 OR L72)
SEL L64 HIT RN
SEL L73 HIT RN
D L73 HITSTR
D L73 10 HITSTR
D L73 30 HITSTR
SEL L73 1-40 HIT RN

FILE 'REGISTRY' ENTERED AT 16:47:54 ON 17 NOV 2006

L74 2 SEA (13463-67-7/BI OR 1314-22-3/BI)
L75 2 SEA L74 AND L49
L76 598 SEA L49 NOT (13463-67-7/RN)

FILE 'HCAPLUS' ENTERED AT 16:52:12 ON 17 NOV 2006

L77 17067 SEA L76
L78 944 SEA (L77 OR L53) AND L58
L79 176 SEA (L77 OR L53) AND L39
L80 13 SEA L78 AND L79
L81 500 SEA (L77 OR L53) AND (L60 OR L61 OR L62)
L82 35 SEA L81 AND L78
L83 13 SEA L81 AND L79
L84 25 SEA L80 OR L83
L85 18 SEA (L77 OR L53) AND L68
L86 827 SEA L76 (L) (SOLUTION? OR SOLN#)
D L80 KWIC 1-5

FILE 'REGISTRY' ENTERED AT 17:03:45 ON 17 NOV 2006

L87 STR
L88 50 SEA SSS SAM L87
L89 10004 SEA SSS FUL L87
SAV L89 ROB565/A
L90 440 SEA L89 AND 2/ELC.SUB
L91 438 SEA L89 AND H/ELS AND 3/ELC.SUB
L92 10 SEA SE/ELS AND PEROXIDE#
L93 2 SEA L92 AND 3/ELC.SUB AND H/ELS
L94 0 SEA L92 AND 2/ELC.SUB
L95 4 SEA SE/ELS AND ?HYDROPEROXY?/CNS
L96 0 SEA L95 AND 3/ELC.SUB

FILE 'HCAPLUS' ENTERED AT 17:13:56 ON 17 NOV 2006

L97 6409 SEA L47 OR L90 OR L91 OR L93 OR L95
L98 444 SEA L97 AND L58
L99 62 SEA L97 AND L39
L100 8 SEA L98 AND L99
L101 170 SEA L97 AND (L60 OR L61 OR L62)
L102 20 SEA L101 AND L98
L103 8 SEA L101 AND L99
L104 17 SEA L97 AND L68
L105 261 SEA (L47 OR L90 OR L91 OR L93 OR L95) (L) (SOLUTION? OR
SOLN#)
D KWIC 2-4
L106 5 SEA L105 AND L39
L107 97 SEA L105 AND L58
L108 4 SEA L107 AND (L60 OR L61 OR L62)
L109 7 SEA L107 AND SPRAY?
D KWIC 1-3
L110 54 SEA L100 OR L102 OR L103 OR L104 OR L106 OR L108 OR L109
L111 50 SEA L110 NOT (L64 OR L72)
SEL L111 HIT RN
D L64 IBIB ABS FHITSTR HITIND 1-4
D L72 IBIB ABS HITSTR HITIND 1-9
D L111 IBIB ABS HITSTR HITIND 1-50

FILE 'REGISTRY' ENTERED AT 17:48:37 ON 17 NOV 2006

L112 6 SEA L93 OR L95
SAV L112 ROB565SE/A

L113 STR L87
L114 50 SEA SUB=L89 SSS SAM L113
L115 988 SEA SUB=L89 SSS FUL L113
SAV L115 ROB565S4/A
L116 179 SEA L115 AND 3/ELC.SUB

FILE 'HCAPLUS' ENTERED AT 18:21:30 ON 17 NOV 2006

L117 247 SEA L116
L118 564 SEA L47
L119 67 SEA L51
L120 4 SEA L93 OR L95

FILE 'REGISTRY' ENTERED AT 18:36:20 ON 17 NOV 2006

L121 44 SEA M/ELS AND HO2 AND 3/ELC.SUB
L122 25 SEA L121 NOT HO/ELS

FILE 'HCAPLUS' ENTERED AT 18:41:16 ON 17 NOV 2006

L123 22 SEA L122
L124 4 SEA (L117 OR L119 OR L120 OR L123) AND L39 *Only 4 hits w/ nanoparticle? etc.*
L125 1 SEA (L117 OR L119 OR L120 OR L123) AND L44 *only 1 hit w/ metal peroxide soln's*
L126 39 SEA (L117 OR L119 OR L120 OR L123) AND L58
L127 3 SEA (L117 OR L119 OR L120 OR L123) AND (L60 OR L61 OR L62)
L128 19 SEA (L116 OR L51 OR L93 OR L95 OR L122) (L) (SOLUTION? OR SOLN#)
L129 10 SEA L126 AND L128
L130 17 SEA L124 OR L125 OR L127 OR L129
L131 9 SEA L128 NOT L129

=> d l116 que stat
L87 STR

O*-O M 3
1 2

NODE ATTRIBUTES:
NSPEC IS RC AT 3
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
L89 10004 SEA FILE=REGISTRY SSS FUL L87
L113 STR

O*-OH M 3
1 2

NODE ATTRIBUTES:
NSPEC IS RC AT 3
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L115 988 SEA FILE=REGISTRY SUB=L89 SSS FUL L113

L116 179 SEA FILE=REGISTRY L115 AND 3/ELC.SUB

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 19:10:15 ON 17 NOV 2006

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=> d l124 ibib abs fhitr hitind 1-4

L124 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1132948 HCAPLUS

DOCUMENT NUMBER: 143:391175

TITLE: Metal oxide peroxide films for adhesive compositions coated on microparticle substrates

INVENTOR(S): Andrews, John W.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005234178	A1	20051020	US 2004-826565	20040416
WO 2005118694	A2	20051215	WO 2005-US12620	20050413
WO 2005118694	A3	20061026		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2004-826565

A

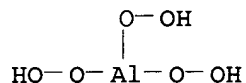
200404

16

AB Adhesive coating compns. containing a metal peroxide (of group II and III metals) are used to produce clear colorless adhesive coatings on substrates, particularly micro-particulates. The nanoparticle coatings are chemical-active and function at a

high level of efficiency due to the high total surface area of the micro particulate substrate.

IT 54615-43-9, Aluminum peroxide (Al(O₂H)₃)
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (precursor; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)
 RN 54615-43-9 HCAPLUS
 CN Aluminum peroxide (Al(O₂H)₃) (9CI) (CA INDEX NAME)



IC ICM C08K003-08
 INCL 524439000; 428402000; 428702000; 428332000; 428403000
 CC 57-2 (Ceramics)
 Section cross-reference(s): 38, 67
 ST titanium oxide peroxide adhesive coating **nanoparticle** substrate photocatalyst
 IT Adhesive films
 Bricks
 Ceramics
 Concrete
 Leather
 Masonry
Nanoparticles
 Pigments, nonbiological
 Skin
 Textiles
 Wood
 (substrates; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)
 IT 1304-76-3, Bismuth oxide (Bi₂O₃), processes 1306-19-0, Cadmium oxide (CdO), processes 1306-38-3, Cerium oxide (CeO₂), processes 1309-37-1, Ferric oxide, processes 1312-43-2, Indium oxide (In₂O₃) 1313-99-1, Nickel oxide (NiO), processes 1314-13-2, Zinc oxide (ZnO), processes 1314-23-4, Zirconium oxide (ZrO₂), processes 1314-35-8, Tungsten oxide (WO₃), processes 1314-61-0, Tantalum oxide (Ta₂O₅) 1317-39-1, Cuprous oxide, processes 7631-86-9, Silica, processes 12030-85-2, Potassium niobium oxide (KNbO₃) 12036-10-1, Ruthenium oxide (RuO₂) 12047-27-7, Barium titanate (BaTiO₃), processes 12060-59-2, Strontium titanate (SrTiO₃)
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (nanoparticles in coating compns.; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)
 IT 54615-43-9, Aluminum peroxide (Al(O₂H)₃) 866891-11-4
 866891-12-5 866891-13-6, Vanadium peroxide
 866891-14-7, Tin peroxide 866891-16-9, Selenium peroxide 866891-18-1, Platinum peroxide
 866891-20-5 866891-22-7 866891-24-9
 866891-26-1, Iron peroxide
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (precursor; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

IT 866890-99-5, Hafnium oxide peroxide 866891-00-1,
 Zirconium oxide peroxide 866891-01-2, Vanadium oxide
 peroxide 866891-02-3, Tin oxide peroxide
 866891-03-4, Selenium oxide peroxide 866891-04-5,
 Platinum oxide peroxide 866891-05-6, Yttrium oxide
 peroxide 866891-06-7, Lanthanum oxide peroxide
 866891-07-8, Scandium oxide peroxide 866891-08-9,
 Aluminum oxide peroxide 866891-09-0, Iron oxide peroxide
 866891-10-3, Titanium oxide peroxide
 RL: PEP (Physical, engineering or chemical process); PYP (Physical
 process); PROC (Process)
 (solns.; metal oxide peroxide films for adhesive compns. coated
 on microparticle substrates)

L124 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:532753 HCAPLUS

DOCUMENT NUMBER: 143:250515

TITLE: Preparation of nanocrystalline WO₃ and MoO₃ by
 different sol-gel methods

AUTHOR(S): Dimitriev, Y.; Iordanova, R.; Mancheva, M.;
 Klissurski, D.

CORPORATE SOURCE: University of Chemical Technology and
 Metallurgy, Sofia, 1756, Bulg.

SOURCE: Khimiya v Interesakh Ustoichivogo Razvitiya
 (2005), 13(2), 185-189
 CODEN: KIURFI; ISSN: 0869-8538

PUBLISHER: Izdatel'stvo Sibirskogo Otdeleniya RAN

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two sol-gel methods for the preparation of WO₃ and MoO₃ nanopowders were
 used in this work: (i) an ion-exchange reaction and (ii) an
 oxidizing reaction (M + H₂O₂). The phase and structural
 transformations undergone by colloidal solns. of tungsten acid (i)
 and peroxotungsten and peroxomolybdic acids (ii) as a function of
 thermal treatment were investigated by X-ray diffraction (XRD) and
 IR spectroscopy (IR). Depending on the methods used, different
 phases were obtained: crystalline hydrates, amorphous and nanocryst.
 products. The tungsten trioxide hydrates were prepared by the ion
 exchange method, crystallization in m-WO₃ occurring above 300 °C.
 The tungsten sample being formed in the oxidizing reaction remained
 amorphous up to 300 °C; above 300 °C, m-WO₃ crystallized
 The particle size of m-WO₃ was 15 nm irresp. of the methods applied.
 IR anal. showed that amorphous tungsten network was built by
 distorted WO₆ units without participation of peroxo groups (O-22).
 The preparation of MoO₃ nanopowders by an oxidizing reaction was also
 studied. Crystallization of MoO₃ was found to start earlier (200
 °C), leading to completely crystallized o-MoO₃ at 300 °C.
 The amorphous state of the product was detected at 100 °C
 only. Comparative anal. of the methods applied showed the oxidizing
 method to be more suitable for obtaining **nanoparticles**.

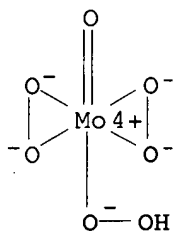
IT 45511-47-5

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP
 (Physical, engineering or chemical process); PROC (Process); USES
 (Uses)

(preparation of nanocryst. WO₃ and MoO₃ by different sol-gel methods)

RN 45511-47-5 HCAPLUS

CN Molybdate(1-), (hydroperoxy)oxodiperoxy-, hydrogen (9CI) (CA INDEX
 NAME)



● H⁺

CC 49-3 (Industrial Inorganic Chemicals)

IT **Nanoparticles**

Powders

(nanopowders; preparation of nanocryst. WO₃ and MoO₃ by different sol-gel methods)

IT 64-17-5, Ethanol, processes 64-19-7, Acetic acid, processes
7722-84-1, Hydrogen peroxide, processes 7783-03-1 13472-45-2
45511-47-5 129241-17-4

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP
(Physical, engineering or chemical process); PROC (Process); USES
(Uses)

(preparation of nanocryst. WO₃ and MoO₃ by different sol-gel methods)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L124 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:350825 HCAPLUS

DOCUMENT NUMBER: 143:51771

TITLE: Rational synthesis and optimization of
multifunctional solid-state gas sensors

AUTHOR(S): Schwank, Johannes; Korotcenkov, Ghenadii

CORPORATE SOURCE: Department of, University of Michigan, Ann
Arbor, MI, 48109-2136, USA

SOURCE: Materials Research Society Symposium Proceedings
(2005), 828 (Semiconductor Materials for
Sensing), 153-160

CODEN: MRSPDH; ISSN: 0272-9172

PUBLISHER: Materials Research Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new approach is discussed for the rational synthesis and development of optimized multifunctional solid-state gas sensors. Multifunctionality-the incorporation of multiple types of reactivities into a material, such as acid and/or base functionalities, oxidation and/or reduction functionalities, etc.-is a requirement in many gas sensing applications. The front end of many gas sensors contains catalytic layers, so that optimization of catalysts and optimization of gas sensors can be carried out in a synergistic fashion. Multifunctionality presents unique challenges to rational catalyst and sensor systems development because the overall performance of the material is a convolution of the performance of the various subcomponents, and optimization of these individual subcomponents in isolation does not necessarily lead to optimal, or even acceptable, overall performance. A major obstacle

to dealing with these difficulties is the inherent complexity of heterogeneous systems prepared by traditional approaches, which makes it difficult to unambiguously identify the compns. and morphologies of the local active sites and their interactions. Further complicating the problem is the requirement to function in environments that can vary on both short and long time scales. A key to understanding, controlling, and optimizing these materials is the ability to produce and study well-defined sensor materials with well-defined composition and morphol., with the flexibility to vary the composition easily without jeopardizing the structural uniformity. The development of new or improved materials for gas sensor applications requires a search for novel and innovative approaches to the **nano-scale** design of these materials. The use of the technol. of surface modification by successive ionic layer deposition (SILD) method is such an innovative approach that are discussed in this paper.

IT 12018-88-1DP, Copper hydroxide peroxide (Cu(OH)(O₂H)),
nonstoichiometric
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(rational synthesis and optimization of multifunctional
solid-state gas sensors)
RN 12018-88-1 HCAPLUS
CN Copper hydroxide peroxide (Cu(OH)(O₂H)) (7CI, 9CI) (CA INDEX NAME)

HO-Cu-O-OH

CC 76-14 (Electric Phenomena)
Section cross-reference(s): 66, 79

IT Annealing
Electric resistance
Gas sensors
Grain size
 Nanostructures
Oxidation
Surface structure
Surface treatment
(rational synthesis and optimization of multifunctional
solid-state gas sensors)

IT 12016-80-7P, Cobalt hydroxide oxide CoOOH 12018-88-1DP,
Copper hydroxide peroxide (Cu(OH)(O₂H)), nonstoichiometric
20344-49-4P, Iron hydroxide oxide FeOOH
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(rational synthesis and optimization of multifunctional
solid-state gas sensors)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L124 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:150374 HCAPLUS

DOCUMENT NUMBER: 135:16975

TITLE: Electron paramagnetic resonance study of
honeybee Apis mellifera abdomens

AUTHOR(S): El-Jaick, Lea Jaccoud; Acosta-Avalos, Daniel;
Motta de Souza Esquivel, Darci; Wajnberg,
Eliane; Paixao Linhares, Marilia

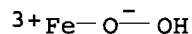
CORPORATE SOURCE: Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, 180, Brazil
 SOURCE: European Biophysics Journal (2001), 29(8), 579-586
 CODEN: EBJOE8; ISSN: 0175-7571
 PUBLISHER: Springer-Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Although ferromagnetic material has been detected in *Apis mellifera* abdomens and identified as suitable for magnetic reception, phys. and magnetic properties of these particles are still lacking. ESR is used to study different magnetic materials in these abdomens. At least four iron structures are identified: isolated Fe³⁺, amorphous FeOOH, isolated magnetite **nanoparticles** of about 3 + 102 nm³ and 103 nm³ vols., depending on the hydration degree of the sample, and aggregates of these particles. A low-temperature transition (52-91 K) was observed and the temperature dependence of the magnetic anisotropy constant of those particles was determined. These results imply that biomineralized magnetites are distinct from inorg. particles and the parameters presented are relevant for the refinement of magnetoreception models in honeybees.

IT 12299-70-6
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence) (ferromagnetic materials detection by ESR in honeybee *Apis mellifera* abdomens)

RN 12299-70-6 HCAPLUS

CN Iron(2+), (hydroperoxy)- (9CI) (CA INDEX NAME)



CC 12-1 (Nonmammalian Biochemistry)

IT 1309-38-2, Magnetite, biological studies 12299-70-6
 20074-52-6, Fe³⁺, biological studies
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence) (ferromagnetic materials detection by ESR in honeybee *Apis mellifera* abdomens)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 1127 ibib abs fhitr hitind 1-3

L127 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:216743 HCAPLUS

DOCUMENT NUMBER: 142:283684

TITLE: Nickel powder coated with titanium compound and electroconductive paste using the same

INVENTOR(S): Yoshida, Mitsugu; Ito, Takayuki

PATENT ASSIGNEE(S): Toho Titanium Co., Ltd., Japan

SOURCE: PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

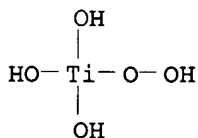
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005021189	A1	20050310	WO 2004-JP10799	20040729
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005076074	A2	20050324	JP 2003-306966	20030829
TW 241227	B1	20051011	TW 2004-93125687	20040827
PRIORITY APPLN. INFO.:			JP 2003-306966	A 20030829

AB A Ni powder coated with a Ti compound is produced by treating a Ni powder with peroxotitanic acid. The process can be implemented after treating the Ni powder with a heterocyclic compound. The Ni powder has a mean particle size of $\leq 1 \mu\text{m}$ and a BET surface area of 1-20 m²/g. The nickel powder is used to produce an elec. conductive paste with excellent sintering characteristics.

IT 13598-71-5, Peroxytitanic acid (H₄TiO₅)
 RL: NUU (Other use, unclassified); USES (Uses)
 (nickel powder coated with titanium compound and electroconductive paste using the same)

RN 13598-71-5 HCAPLUS

CN Titanium hydroxide peroxide (Ti(OH)₃(O₂H)), (T-4)- (9CI) (CA INDEX NAME)



IC ICM B22F001-02

CC 56-6 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 76

IT **Coating process**
 Electrically conductive pastes
 Powders
 (nickel powder coated with titanium compound and electroconductive paste using the same)

IT 13598-71-5, Peroxytitanic acid (H₄TiO₅)
 RL: NUU (Other use, unclassified); USES (Uses)
 (nickel powder coated with titanium compound and electroconductive
 paste using the same)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L127 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:45289 HCAPLUS
 DOCUMENT NUMBER: 138:57562
 TITLE: Self-cleaning antibacterial coating compositions
 INVENTOR(S): Cui, Haixin; Qin, Zerong
 PATENT ASSIGNEE(S): Puren Bio-Technology Co., Ltd., Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9
 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1328095	A	20011226	CN 2000-109154	200006 13
				200006 13

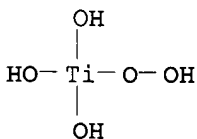
PRIORITY APPLN. INFO.: CN 2000-109154

AB The composition useful for coating surfaces of substrates such as
 ceramics and metals, comprises a water-soluble colloid solution containing
 0.25-10% titanium oxide photosemiconductive particles with particle
 diameter <50 nm and 0.13-4% peroxytitanic acid, wherein the ratio of
 TiO₂ to H₄TiO₅ is 0.3-6. Thus, 10% titanium sulfate aqueous solution was
 hydrolyzed in the presence of NaOH for 30 min, and reacted with 500
 mL aqueous solution containing 10.5 g H₂O₂ to give a colloid solution with TiO₂
 content 2% and H₄TiO₅ content 1%, which was coated on a glass
 surface and dried at 500° for 30 min, showing pencil hardness
 >9H, good transparency, adhesion, and antibacterial properties.

IT 13598-71-5P, Peroxytitanic acid (H₄TiO₅)
 RL: BUU (Biological use, unclassified); IMF (Industrial
 manufacture); TEM (Technical or engineered material use); BIOL
 (Biological study); PREP (Preparation); USES (Uses)
 (self-cleaning antibacterial coating compns.)

RN 13598-71-5 HCAPLUS

CN Titanium hydroxide peroxide (Ti(OH)₃(O₂H)), (T-4)- (9CI) (CA INDEX
 NAME)



IC ICM C09D001-00

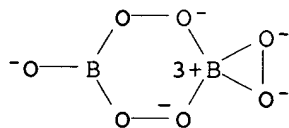
ICS A01N025-00
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 55, 56, 58, 63
 IT **Coating materials**
 (bactericidal; self-cleaning antibacterial coating compns.)
 IT 13463-67-7P, Titanium oxide, uses 13598-71-5P,
 Peroxytitanic acid (H₄TiO₅)
 RL: BUU (Biological use, unclassified); IMF (Industrial
 manufacture); TEM (Technical or engineered material use); BIOL
 (Biological study); PREP (Preparation); USES (Uses)
 (self-cleaning antibacterial coating compns.)

L127 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:329205 HCAPLUS
 DOCUMENT NUMBER: 120:329205
 TITLE: Wear mechanism of Cr₂O₃ coating in inorganic
 salt solutions
 AUTHOR(S): Wei, Jianjun; Xue, Qunji
 CORPORATE SOURCE: Lanzhou Inst. Chem. Phys., Chin. Acad. Sci.,
 Lanzhou, 730000, Peop. Rep. China
 SOURCE: Wuji Cailiao Xuebao (1993), 8(1), 105-10
 CODEN: WXCJUE; ISSN: 1000-324X
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB The friction and wear properties of Cr₂O₃ coatings in inorg. salt
 solns. were studied using a block-on-ring tester at ambient
 conditions. The friction coefficient is ranked from highest to lowest in
 the order: NaCl, NaNO₃, Na₂SO₄, Na₂B₂O₇, Na₃PO₄, for Na salt solns.;
 NaCl, MgCl₂, AlCl₃, for chloride salt solns. The wear volume of the
 block is ranked in descending order as follows: NaCl, Na₂B₂O₇,
 Na₃PO₄, NaNO₃, Na₂SO₄, for Na salt solns.; NaCl, AlCl₃, MgCl₂,
 ZnCl₂, for chloride salt solns. The optical micrographs and XPS
 analyses of the worn surfaces indicate that the wear mechanism of
 Cr₂O₃ coating in inorg. salt solns. is a combination of several wear
 modes involving microfracture, tribochem. and abrasive wear.

IT 155606-94-3
 RL: MSC (Miscellaneous)
 (friction and wear of chromia coatings in ag. solns. containing)

RN 155606-94-3 HCAPLUS
 CN Borate(2-), [bis(hydroperoxy)hydroxyborato(3-)-
 κOO,κOO']peroxy-, disodium, (T-4)- (9CI) (CA INDEX
 NAME)



● 2 Na⁺

CC 57-2 (Ceramics)
 IT **Coating materials**
 (chromia, friction and wear of, in inorg. salt solns.)
 IT 7446-70-0, Aluminum trichloride, miscellaneous 7601-54-9, Sodium
 phosphate (Na₃PO₄) 7631-99-4, Nitric acid sodium salt,

miscellaneous 7646-85-7, Zinc dichloride, miscellaneous
7647-14-5, Sodium chloride (NaCl), miscellaneous 7757-82-6, Sodium
sulfate (Na₂SO₄), miscellaneous 7786-30-3, Magnesium dichloride,
miscellaneous 155606-94-3

RL: MSC (Miscellaneous)

(friction and wear of chromia coatings in ag. solns. containing)

=> d 1129 ibib abs fhitr hitind 1-10

L129 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:647763 HCAPLUS

DOCUMENT NUMBER: 138:221221

TITLE: Synthesis of glutaraldehyde by selective
oxidation of cyclopentene with **aqueous**
solution of H₂O₂ catalyzed by
peroxyniobic acid catalyst

AUTHOR(S): Chen, Hao; Deng, Jing-fa; Jiang, An-ren; Dai,
Wei-lin; Fan, Kang-nian

CORPORATE SOURCE: Dept. of Chem., Fudan Univ., Shanghai, 200433,
Peop. Rep. China

SOURCE: Fudan Xuebao, Ziran Kexueban (2002), 41(3),
317-319, 324

CODEN: FHPTAY; ISSN: 0427-7104

PUBLISHER: Fudan Daxue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

OTHER SOURCE(S): CASREACT 138:221221

AB Novel peroxyniobic acid catalyst was prepared with Nb₂O₅ as the
precursor. In a system with alc. as solvent and aqueous H₂O₂ as
oxidizer, the catalyst peroxyniobic acid can catalyze cyclopentene
to prepare glutaraldehyde with high efficiency. Under optimal
reaction condition, the conversion of cyclopentene is up to 100% and
the yield of glutaraldehyde is up to 72%.

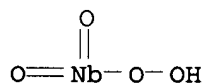
IT 23078-02-6P, Peroxyniobic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(synthesis of glutaraldehyde by selective oxidation of cyclopentene
with **aqueous solution** of H₂O₂ catalyzed by
peroxyniobic acid catalyst)

RN 23078-02-6 HCAPLUS

CN Niobium oxide peroxide (NbO₂(O₂H)) (9CI) (CA INDEX NAME)



CC 23-14 (Aliphatic Compounds)

Section cross-reference(s): 21

IT Oxidation

Oxidation catalysts

(oxidation of olefins with **aqueous solution** of H₂O₂
catalyzed by peroxyniobic acid)

IT Alkenes, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of olefins with **aqueous solution** of H₂O₂
catalyzed by peroxyniobic acid)

IT Aldehydes, preparation

- RL: SPN (Synthetic preparation); PREP (Preparation)
(oxidation of olefins with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid)
- IT 100-42-5, Styrene, reactions 110-83-8, Cyclohexene, reactions
592-41-6, Hexene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of olefins with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid)
- IT 100-52-7P, Benzaldehyde, preparation 110-62-3P, Pentanal
1072-21-5P, Hexanedial
RL: SPN (Synthetic preparation); PREP (Preparation)
(oxidation of olefins with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid)
- IT 142-29-0, Cyclopentene
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of glutaraldehyde by selective oxidation of cyclopentene with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid)
- IT 1313-96-8, Niobium oxide 7722-84-1, Hydrogen peroxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of glutaraldehyde by selective oxidation of cyclopentene with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid catalyst)
- IT 23078-02-6P, Peroxyniobic acid
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(synthesis of glutaraldehyde by selective oxidation of cyclopentene with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid catalyst)
- IT 111-30-8P, Glutaraldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of glutaraldehyde by selective oxidation of cyclopentene with **aqueous solution** of H2O2 catalyzed by peroxyniobic acid catalyst)

L129 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:343826 HCAPLUS

DOCUMENT NUMBER: 127:100328

TITLE: The chemistry of peroxovanadium species in **aqueous solutions**. Structure and reactivity of a neutral diperoxovanadium complex as provided by 51V-NMR data, ab initio calculations and kinetic results

AUTHOR(S): Conte, Valeria; Di Furia, Fulvio; Moro, Stefano

CORPORATE SOURCE: Universita di Padova, Centro CNR di Studio sui Meccanismi di Reazioni Organiche, Dipartimento di Chimica Organica, via Marzolo 1, Padua, 35131, Italy

SOURCE: Journal of Molecular Catalysis A: Chemical (1997), 120(1-3), 93-99
CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The addition of hydrogen peroxide to vanadium (V) precursors in **aqueous acidic solns.** leads to the formation of a cationic monoperoxospecies [VO(O2)]⁺ and an anionic diperoxocomplex [VO(O2)2]⁻, depending on the pH and on the excess of H2O2. The latter may undergo protonation to form the neutral complex [HVO(O2)2]. 51V-NMR data and ab initio calcns. suggest that the

neutral complex is formed via protonation of a peroxide oxygen and that in such a species, as well as in the other two peroxovanadium derivs., the usual η^2 arrangement of the peroxo groups is maintained. The comparison of reactivity data of the three complexes in the self-decomposition reaction and in the oxidation of uracil, indicates that the neutral diperoxocomplex exhibits an oxidizing power considerably larger than that of the other two peroxovanadium species.

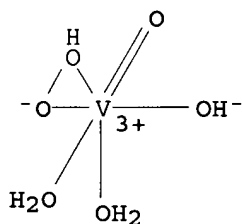
IT 191921-45-6

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(chemical of peroxovanadium species in **aqueous solns** and structure and reactivity of neutral diperoxovanadium complex as provided by 51V-NMR data, ab initio calcns. and kinetic results)

RN 191921-45-6 HCAPLUS

CN Vanadium(1+), diaqua(hydroperoxy)hydroxyoxo-, (OC-6-34) - (9CI) (CA INDEX NAME)



CC 67-3 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)

Section cross-reference(s): 65, 77

ST chem peroxo vanadium species **aq soln**; reactivity, neutral diperoxovanadium complex; NMR neutral diperoxovanadium complex; ab initio neutral diperoxovanadium complex; kinetics reaction neutral diperoxovanadium complex

IT Decomposition

Decomposition kinetics

Molecular structure

Protonation

(chemical of peroxovanadium species in **aqueous solns** and structure and reactivity of neutral diperoxovanadium complex as provided by 51V-NMR data, ab initio calcns. and kinetic results)

IT Oxidation

Oxidation kinetics

(of uracil; chemical of peroxovanadium species in **aqueous solns** and structure and reactivity of neutral diperoxovanadium complex as provided by 51V-NMR data, ab initio calcns. and kinetic results)

IT 129835-89-8 191233-61-1 191921-44-5 191921-45-6

191921-46-7 192006-22-7 192006-23-8

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(chemical of peroxovanadium species in **aqueous solns** and structure and reactivity of neutral diperoxovanadium complex as provided by 51V-NMR data, ab initio calcns. and kinetic results)

IT 7722-84-1, Hydrogen peroxide, reactions 7803-55-6, Ammonium

vanadate

RL: RCT (Reactant); RACT (Reactant or reagent)

(chemical of peroxovanadium species in **aqueous solns**
and structure and reactivity of neutral diperoxovanadium complex
as provided by 51V-NMR data, ab initio calcns. and kinetic
results)

IT 66-22-8, Uracil, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of; chemical of peroxovanadium species in **aqueous
solns** and structure and reactivity of neutral
diperoxovanadium complex as provided by 51V-NMR data, ab initio
calcns. and kinetic results)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L129 ANSWER 3 OF 10. HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:251111 HCAPLUS

DOCUMENT NUMBER: 126:240577

TITLE: Sweetening hydrocarbons such as sour natural gas
using solutions containing OCl- and HO2-

INVENTOR(S): Sweeney, Charles Timothy

PATENT ASSIGNEE(S): Sweeney, Charles Timothy, USA

SOURCE: PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 9706875	A1	19970227	WO 1996-US13339	199608 14
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, MD, MG, MN, MX, NO, NZ, PL, PT, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5667760	A	19970916	US 1995-515391	199508 15
AU 9667776	A1	19970312	AU 1996-67776	199608 14
PRIORITY APPLN. INFO.:			US 1995-515391	A 199508 15
			WO 1996-US13339	W 199608 14

AB Sour natural gas, containing H2S and organic sulfide contaminants, is
contacted with a sweetening composition comprising an **aqueous
solution** of a substantially equimolar mixture of OCl- and HO2

(preferably NaOCl and NaOOH) for a time sufficient to oxidize the sulfides to an odorless form. The solution has a pH of 9.0-10.5 and an oxidation normality of 0.001-0.1. The solution may be produced by mixing Cl₂ into a dilute **aqueous solution** of NaOH at about pH 10.5 until the pH reaches a level of .apprx.9.5-10.5, or produced electrochem. in a diaphragm cell having a bipolar electrode in the same compartment as the anode, collecting the effluent gas from the cell and absorbing said effluent gas into a dilute **aqueous solution** of NaOH at about pH 9.5-10.5. The treatment may be run as an adjunct to a metal chelate redox treatment to improve the oxidation by the redox catalyst and to improve the catalyst regeneration. The treatment may be run in batch, in a scrubbing tower, or in-line in a flowing gas stream with solids removal provided.

IT 25277-93-4, Sodium peroxide (Na(O₂H))
RL: RCT (Reactant); RACT (Reactant or reagent)
(sweetening hydrocarbons such as sour natural gas using
solns. containing OCl- and HO₂-)
RN 25277-93-4 HCAPLUS
CN Sodium peroxide (Na(O₂H)) (9CI) (CA INDEX NAME)

Na-O-OH

IC ICM B01D053-52
CC 51-4 (Fossil Fuels, Derivatives, and Related Products)
IT 1310-73-2, Sodium hydroxide (NaOH), reactions 7681-52-9, Sodium hypochlorite 7782-50-5, Chlorine, reactions 25277-93-4, Sodium peroxide (Na(O₂H))
RL: RCT (Reactant); RACT (Reactant or reagent)
(sweetening hydrocarbons such as sour natural gas using
solns. containing OCl- and HO₂-)

L129 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:308159 HCAPLUS

DOCUMENT NUMBER: 124:353935

TITLE: Heat effects occurring during the reactions between gaseous chlorine and strong aqueous bases

AUTHOR(S): Dorko, Earnest A.; Moler, Jeffrey L.; Lepp, Michael A.

CORPORATE SOURCE: Phillips Laboratory, Lasers and Imaging Directorate (PL/LIDB), Kirtland AFB, NM, 87117-5776, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1996), 2702(Gas and Chemical Lasers), 349-356

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Expts. were conducted in order to determine the heat effects which accompany the reactions between gaseous chlorine and strong, concentrated **aqueous base solns.** The bases used were potassium hydroxide and potassium hydroperoxide. Solution concns. ranged up to 7 M. Chlorine gas was bubbled into the base solution which was thermally isolated from the surroundings in a Dewar vessel. From the exptl. data, enthalpies of reaction and enthalpies of formation for the

concentrated basic solns. were calculated
 IT 23594-86-7, Potassium hydroperoxide
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (heats of reaction and formation for gaseous chlorine and concentrated
 solns. of potassium hydroxide and potassium
 hydroperoxide)
 RN 23594-86-7 HCAPLUS
 CN Potassium peroxide (K(O2H)) (9CI) (CA INDEX NAME)

K-O-OH

CC 69-2 (Thermodynamics, Thermochemistry, and Thermal Properties)
 Section cross-reference(s): 73
 IT 1310-58-3, Potassium hydroxide, properties 7782-50-5, Chlorine,
 properties 23594-86-7, Potassium hydroperoxide
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (heats of reaction and formation for gaseous chlorine and concentrated
 solns. of potassium hydroxide and potassium
 hydroperoxide)

L129 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:416095 HCAPLUS

DOCUMENT NUMBER: 117:16095

TITLE: Decreasing the concentration of hydroxyl ions in
 electrochemically generated **aqueous**
 alkaline peroxide **solutions**

INVENTOR(S): Clifford, Arthur L.; Rogers, Derek J.

PATENT ASSIGNEE(S): H-D Tech Inc., USA

SOURCE: Can. Pat. Appl., 29 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CA 2034058	AA	19911017	CA 1991-2034058	19910111
US 5106464	A	19920421	US 1990-510342	19900416
JP 07096146	A2	19950411	JP 1991-41866	19910307
FI 9101209	A	19911017	FI 1991-1209	19910312
FI 94965	B	19950815		
FI 94965	C	19951127		
AU 9174173	A1	19911017	AU 1991-74173	19910409
AU 635407	B2	19930318		
NO 9101460	A	19911017	NO 1991-1460	199104

SE 9101126 A 19911017 SE 1991-1126 15
199104
15
US 5244547 A 19930914 US 1991-717298 199106
18
PRIORITY APPLN. INFO.: US 1990-510342 A 199004
16

AB The method consists of partial neutralization of a stabilized solution of alkaline H₂O₂, electrodialysis, and dialysis of the **aqueous solution**. The method can be used in the pulp and paper industry.

IT 23594-86-7, Potassium hydroperoxide
RL: PRP (Properties)
(in decreasing hydroxyl ion concentration in electrochem. generated alkaline peroxide **solns.**)

RN 23594-86-7 HCAPLUS

CN Potassium peroxide (K(O₂H)) (9CI) (CA INDEX NAME)

K-O-OH

IC ICM C25B001-30
ICS C25B009-00; C01B015-043; B01D061-46; B01D061-52

CC 72-9 (Electrochemistry)
Section cross-reference(s): 43, 49

IT 10042-76-9, Strontium nitrate 10043-52-4, Calcium chloride, uses 10361-37-2, Barium chloride, uses 23594-86-7, Potassium hydroperoxide 25277-93-4, Sodium hydroperoxide
RL: PRP (Properties)
(in decreasing hydroxyl ion concentration in electrochem. generated alkaline peroxide **solns.**)

L129 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:45898 HCAPLUS
DOCUMENT NUMBER: 114:45898
TITLE: Electrodialytic water splitting process for the treatment of aqueous electrolytes
INVENTOR(S): Paleologou, Michael; Berry, Richard M.
PATENT ASSIGNEE(S): Pulp and Paper Research Institute of Canada, Can.
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9012637	A2	19901101	WO 1990-CA116	199004 09
WO 9012637	A3	19910110		
W: AU, BR, CA, FI, JP, NO, US				

RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE
 US 5006211 A 19910409 US 1989-340200

198904
19

AU 9054057 A1 19901116 AU 1990-54057

199004
09

CA 2049941 C 19990112 CA 1990-2049941

199004
09

PRIORITY APPLN. INFO.:

US 1989-323756

A2

198903
15

US 1989-340200

A

198904
19

WO 1990-CA116

A

199004
09

AB Dealkalization or acidification of **aqueous** salt **solns**
 . is carried out in a cell comprising an anode, a cathode, and
 ≥ 2 compartments between them, defined by a cation
 permselective membrane and ≥ 1 pair of bipolar membranes. An
aqueous solution of a salt is fed to the 1st compartment
 and water into the second compartment, to contact the anionic side
 of the bipolar membrane. A d.c. is passed between the anode and
 cathode for migration of the cation from the first compartment
 through the cation permselective membrane into the second
 compartment and to cause splitting of water by the bipolar membrane
 in the second compartment with the accumulation of hydroxide ions in
 the compartment. The H ions and the hydroxide are removed from the
 second compartment. The process is particularly applicable to the
 dealkalization of monosodium peroxide solns. containing NaOH produced in
 a H₂O₂ generator.

IT 25277-93-4P, Sodium peroxide (Na(O₂H))
 RL: PREP (Preparation)
 (alkaline, from peroxide manufacture, dealkalization or acidification of
aqueous salt **solns.** containing, by electrodialytic
 water splitting process)

RN 25277-93-4 HCAPLUS

CN Sodium peroxide (Na(O₂H)) (9CI) (CA INDEX NAME)

Na-O-OH

IC ICM B01D061-44
 ICS C01D001-38; C01B015-043; D21C009-16; B01D; C01D; C01B; D21C

CC 48-8 (Unit Operations and Processes)
 Section cross-reference(s): 49, 60, 61

ST dealkalization **aq** salt **soln**; acidification
aq salt **soln**; water splitting electrodialysis
 electrolyte treatment

IT Electrodialysis
 (water splitting by, in dealkalization or acidification of
aqueous salt **solns.**)

IT 25277-93-4P, Sodium peroxide (Na(O₂H))

RL: PREP (Preparation)

(alkaline, from peroxide manufacture, dealkalization or acidification of aqueous salt solns. containing, by electrodialytic water splitting process)

IT 1310-73-2, Sodium hydroxide, uses and miscellaneous 7487-88-9,
Magnesium sulfate, uses and miscellaneous

RL: USES (Uses)

(dealkalization or acidification of aqueous salt solns. containing, by electrodialytic water splitting process)

L129 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:584495 HCAPLUS

DOCUMENT NUMBER: 107:184495

TITLE: Characterization of the perhydroxytitanyl(2+) ion in acidic aqueous solution

. Products and kinetics of its decomposition

AUTHOR(S): Rotzinger, Francois P.; Graetzel, Michael

CORPORATE SOURCE: Inst. Chim. Phys., Ec. Polytech. Fed., Lausanne, CH-1015, Switz.

SOURCE: Inorganic Chemistry (1987), 26(22), 3704-8

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Peroxotitanium(IV) is shown to have the composition $Ti(O_2)_2$. The stability constant $KH_2O_2 = (8.7 \pm 1.4) \times 10^3 M^{-1}$, determined at 25° and ionic strength = 1.0 ($NaClO_4$), agrees with the literature value and is acid-independent. The oxidation of $Ti(O_2)_2$ by $CeIV$ produces the title complex, $TiO(HO_2)_2$, which was characterized via its decomposition kinetics. TiO_2 and HO_2 formed reversibly in an acid-catalyzed and a spontaneous associative substitution process. In a 2nd, fast step, HO_2 and $TiO(HO_2)_2$ are transformed irreversibly into $Ti(O_2)_2$, O_2 , and H_2O . The charge of $TiO(HO_2)_2$ was determined from the ionic strength dependence of its acid-catalyzed decay. O does not react with aqueous(III), but it oxidizes $TiOH_2$. The transition state arising from this reaction is different from and higher in energy than those formed via the decomposition of $TiO(HO_2)_2$.

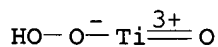
IT 110487-74-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(decomposition of, in acidic solution, kinetics and mechanism of)

RN 110487-74-6 HCAPLUS

CN Titanium(2+), (hydroperoxy)oxo- (9CI) (CA INDEX NAME)



CC 67-3 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)

Section cross-reference(s): 78

IT Kinetics of decomposition

(of perhydroxytitanyl(2+), in aqueous acetic soln ., temperature and pH dependence of)

IT Decomposition

(of perhydroxytitanyl(2+), in aqueous acetic solns .)

IT 110487-74-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(decomposition of, in acidic **solution**, kinetics and mechanism of)

L129 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:430976 HCAPLUS

DOCUMENT NUMBER: 101:30976

TITLE: Pulse radiolysis study of the kinetics and mechanisms of the reactions between manganese(II) complexes and perhydroxyl (HO₂)/superoxide (O₂⁻) radicals. 1. Sulfate, formate and pyrophosphate complexes

AUTHOR(S): Cabelli, Diane E.; Bielski, Benon H. J.

CORPORATE SOURCE: Chem. Dep., Brookhaven Natl. Lab., Upton, NY, 11973, USA

SOURCE: Journal of Physical Chemistry (1984), 88(14), 3111-15

CODEN: JPCHAX; ISSN: 0022-3654

DOCUMENT TYPE: Journal

LANGUAGE: English

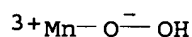
AB The reactions between Mn²⁺ and HO₂/O₂⁻ were studied in the presence of pyrophosphate, sulfate, or formate ligands. Manganous pyrophosphate was oxidized to manganic pyrophosphate by both HO₂ and O₂⁻ at pH-dependent rates varying from 3 × 10⁵ to 2 × 10⁷ M⁻¹ s⁻¹ in the pH range of 0.1-7.2. The sulfate and formate complexes both reacted to yield the transient species MnO₂⁺/MnOOH₂⁺; MnO₂⁺ eventually disappeared by complex processes while MnOOH₂⁺ reacted with addnl. Mn²⁺ to form a dinuclear species, MnOOHMn⁴⁺, and/or oxidized to Mn³⁺. Reaction kinetics were established from pH 1 to 7 for these 2 systems.

IT 90342-66-8P

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis of manganese(2+) sulfate and formate in **aqueous solns.** during pulse radiolysis, kinetics of)

RN 90342-66-8 HCAPLUS

CN Manganese(2+), (hydroperoxy)- (9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Kinetics of oxidation

Oxidation

(of manganese pyrophosphate, sulfate or formate in **aqueous solns.** by perhydroxyl and superoxide radicals during pulse radiolysis)

IT Kinetics, reaction

(of manganese(2+) with perhydroxyl and superoxide radicals in **aqueous solns.** during pulse radiolysis)

IT Radiolysis

(pulsed, of manganese pyrophosphate, sulfate or formate in **aqueous solns.**, kinetics and mechanism of reactions between manganese(2+) and perhydroxyl and superoxide radicals in)

IT 66460-00-2P 90342-66-8P

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis of manganese(2+) sulfate and formate in **aqueous solns.** during pulse

radiolysis, kinetics of)

IT 64042-23-5P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis of manganese(2+) sulfate in
aqueous solns., kinetics and mechanism of reactions
in)

IT 3251-96-5 7785-87-7 13446-44-1 16397-91-4, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with perhydroxyl and superoxide radicals in
aqueous solns. during pulse radiolysis, kinetics
and mechanism of)

IT 3170-83-0 11062-77-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with manganese(2+) sulfate, formate or
pyrophosphate in **aqueous solns.** during pulse
radiolysis, kinetics and mechanism of)

L129 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:195536 HCAPLUS
DOCUMENT NUMBER: 90:195536
TITLE: Mechanisms of some radiation-induced oxidations
of ferrous ions in **aqueous
solutions**
AUTHOR(S): Jayson, G. G.; Swallow, A. J.
CORPORATE SOURCE: Liverpool Polytech., Liverpool, UK
SOURCE: Water Chem. Nucl. React. Syst., Proc. Int. Conf.
(1978), Meeting Date 1977, 303-10, 311-13.
BNES: London, Engl.
CODEN: 40DPAE
DOCUMENT TYPE: Conference
LANGUAGE: English

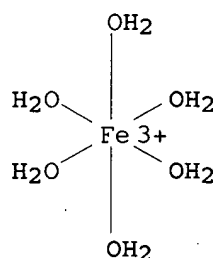
AB Oxidation reactions of Fe²⁺ in acidified **aqueous solution**
initiated by OH, Cl, Cl₂·, HO₂, RO₂ (organic peroxy) and H radicals
were investigated by using the pulse radiolysis technique. Some of
the radicals gave rise to transient outer-sphere ferric complexes
(e.g. Fe³⁺(H₂O)₆HO₂·) which had distinct absorptions so that rates
of formation and decay could be followed. At higher Fe²⁺ concns.
absorption due to ferric-X-ferrous bridge transients could sometimes
be observed. In the case of HO₂ and RO₂ radicals the rate consts. of
formation and decay of the transients were determined and the temperature
dependence investigated. The introduction of SO₄²⁻ into the
outer-sphere and its transfer to the inner-coordination sphere of
Fe³⁺ were studied. The action of organic S compds. on these reactions
was considered.

IT 41975-50-2P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis-oxidation of ferrous ion in
acidified aqueous solution)

RN 41975-50-2 HCAPLUS
CN Iron(3+), hexaaqua-, (OC-6-11)-, salt with hydrogen peroxide (1:1),
ion(2+) (9CI) (CA INDEX NAME)

CM 1

CRN 15377-81-8
CMF Fe H12.06
CCI CCS



CM 2

CRN 14691-59-9

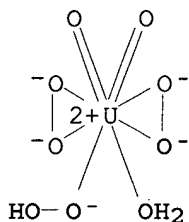
CMF H O2

-O-OH

- CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic Processes)
- IT Oxidation
(radiochem., of ferrous ions in acidified **aqueous solns.**)
- IT 15377-81-8P 15552-63-3P 15634-15-8P 15696-19-2P
41975-50-2P 41975-51-3P 70140-01-1P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis-oxidation of ferrous ion in acidified **aqueous solution**)
- IT 42011-97-2P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis-oxidation of ferrous ion in acidified **aqueous solns.**)
- IT 3170-83-0 3352-57-6, reactions 12385-13-6, uses and miscellaneous 12595-89-0 22537-15-1, uses and miscellaneous
RL: USES (Uses)
(oxidation of ferrous ion in acidified **aqueous solution** initiated by)
- IT 25415-02-5
RL: USES (Uses)
(oxidation of ferrous ion in acidified **aqueous solution** initiated by, pulse-radiolysis)
- IT 14808-79-8, uses and miscellaneous
RL: USES (Uses)
(radiation-induced oxidation of ferrous ions in acidified **aq. solution** containing)
- IT 15438-31-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(radiation-induced oxidation of, in acidified **aqueous solution**)

L129 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1968:439204 HCAPLUS
 DOCUMENT NUMBER: 69:39204
 TITLE: Peroxyfluoride complex compounds of uranyl. II.
 Equilibriums in solution
 AUTHOR(S): Gurevich, A. M.; Susorova, N. A.

CORPORATE SOURCE: USSR
 SOURCE: Radiokhimiya (1968), 10(2), 211-21
 CODEN: RADKAU; ISSN: 0033-8311
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Spectroscopic evidence shows that $[\text{UO}_2\text{F}_4]^{2-}$ and H_2O_2 form complexes of the following composition: $[(\text{UO}_2)_2(\text{O}_2)\text{F}_5]^{3-}$, $[(\text{UO}_2)_2(\text{O}_2)_2\text{F}_5]^{5-}$, $[(\text{UO}_2)_2(\text{O}_2)_3\text{F}_2]^{4-}$, and $[(\text{UO}_2)_2(\text{O}_2)_3(\text{OH})\text{F}_2]^{5-}$. Complex formation occurs at pH 5-9.5, through the replacement of the F ligand by O_2 groups. The stability consts. of the complexes were calculated, and their mechanism of formation is discussed.
 IT 12378-68-6, Uranate(3-), aquahydroperoxydioxodiperoxy-
 RL: PRP (Properties)
 (solution equilibrium of, in presence of hydrogen peroxide)
 RN 12378-68-6 HCAPLUS
 CN Uranate(3-), aqua(hydroperoxy)dioxodiperoxy- (9CI) (CA INDEX NAME)



CC 68 (Phase Equilibriums, Chemical Equilibriums, and Solutions)
 IT 12345-99-2 12346-00-8 12346-02-0 12346-03-1 12378-68-6
 , Uranate(3-), aquahydroperoxydioxodiperoxy-
 RL: PRP (Properties)
 (solution equilibrium of, in presence of hydrogen peroxide)
 IT 7722-84-1, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (with tetrafluorodioxouranate(2-) in aqueous soln
 .)

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L131 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:687310 HCAPLUS
 DOCUMENT NUMBER: 145:173553
 TITLE: Environment-friendly skin antiseptic solution containing sodium hydroperoxide, sodium acetate, sodium citrate, and glycerol
 INVENTOR(S): Guo, Baolin
 PATENT ASSIGNEE(S): Beijing Jinzihui Technology Co., Ltd., Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 3 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1689550

A

20051102

CN 2004-10034036

200404

22

PRIORITY APPLN. INFO.:

CN 2004-10034036

200404

22

AB The title solution comprises (by weight%) sodium hydroperoxide 0.1-2, sodium acetate 0.3-3, sodium citrate 0.3-3, glycerol 0.1-8, and deionized water as balance. The solution has both skin-moistening and antiseptic effects, has no toxicity, irritation, odor, or degeneration, and is environment-friendly and portable. The solution can be utilized by spraying or daubing onto skins.

IT 25277-93-4, Sodium hydroperoxide

RL: BUU (Biological use, unclassified); BIOL (Biological study);

USES (Uses)

(environment-friendly skin antiseptic **solution** containing sodium hydroperoxide, sodium acetate, sodium citrate, and glycerol)

RN 25277-93-4 HCAPLUS

CN Sodium peroxide (Na(O₂H)) (9CI) (CA INDEX NAME)

Na-O-OH

IC ICM A61K007-40

CC 62-4 (Essential Oils and Cosmetics)

IT 56-81-5, Glycerol, biological studies 68-04-2, Sodium citrate 127-09-3, Sodium acetate 25277-93-4, Sodium hydroperoxide

RL: BUU (Biological use, unclassified); BIOL (Biological study);

USES (Uses)

(environment-friendly skin antiseptic **solution** containing sodium hydroperoxide, sodium acetate, sodium citrate, and glycerol)

L131 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1355019 HCAPLUS

DOCUMENT NUMBER: 145:212975

TITLE: Pronounced catalytic effect of micellar solution of sodium dodecyl sulfate (SDS) for regioselective iodination of aromatic compounds with a sodium iodide/cerium(IV) trihydroxide hydroperoxide system

AUTHOR(S): Firouzabadi, Habib; Iranpoor, Nasser; Garzan, Atefeh

CORPORATE SOURCE: Department of Chemistry, College of Sciences, Shiraz University, Shiraz, 71454, Iran

SOURCE: Advanced Synthesis & Catalysis (2005), 347(15), 1925-1928

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Micellar solns. of sodium dodecyl sulfate (SDS) catalyze the regioselective iodination of a wide range of aromatic compds. with sodium iodide in the presence of the easily prepared, water-resistant and recyclable cerium(IV) trihydroxide hydroperoxide, Ce(OH)₃O₂H, at room temperature. By this protocol, structurally diverse aromatic compds.

including benzene and naphthalene were iodinated in good to excellent yields.

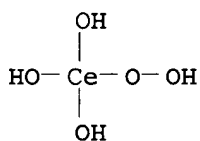
IT 93131-81-8P

RL: RGT (Reagent); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(catalytic activity of micellar SDS solution in
 regioselective iodination of aromatic compds. with sodium
 iodide/cerium trihydroxide hydroperoxide system)

RN 93131-81-8 HCAPLUS

CN Cerium hydroxide peroxide (Ce(OH)3(O2H)), (T-4)- (7CI, 9CI) (CA
 INDEX NAME)



CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

Section cross-reference(s): 25

IT 93131-81-8P

RL: RGT (Reagent); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(catalytic activity of micellar SDS solution in
 regioselective iodination of aromatic compds. with sodium
 iodide/cerium trihydroxide hydroperoxide system)

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L131 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1132948 HCAPLUS

DOCUMENT NUMBER: 143:391175

TITLE: Metal oxide peroxide films for adhesive
 compositions coated on microparticle substrates

INVENTOR(S): Andrews, John W.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005234178	A1	20051020	US 2004-826565	20040416
WO 2005118694	A2	20051215	WO 2005-US12620	20050413
WO 2005118694	A3	20061026		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,				

MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
 SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,
 US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,
 NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2004-826565

A

 200404
 16

AB Adhesive coating compns. containing a metal peroxide (of group II and III metals) are used to produce clear colorless adhesive coatings on substrates, particularly micro-particulates. The nanoparticle coatings are chemical-active and function at a high level of efficiency due to the high total surface area of the micro particulate substrate.

IT 866890-99-5, Hafnium oxide peroxide

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(solns.; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

RN 866890-99-5 HCAPLUS

CN Hafnium oxide peroxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
O	x	17778-80-2
HO2	x	14691-59-9
Hf	x	7440-58-6

IC ICM C08K003-08

INCL 524439000; 428402000; 428702000; 428332000; 428403000

CC 57-2 (Ceramics)

Section cross-reference(s): 38, 67

IT 866890-99-5, Hafnium oxide peroxide 866891-00-1,
 Zirconium oxide peroxide 866891-01-2, Vanadium oxide
 peroxide 866891-02-3, Tin oxide peroxide
 866891-03-4, Selenium oxide peroxide 866891-04-5,
 Platinum oxide peroxide 866891-05-6, Yttrium oxide
 peroxide 866891-06-7, Lanthanum oxide peroxide
 866891-07-8, Scandium oxide peroxide 866891-08-9,
 Aluminum oxide peroxide 866891-09-0, Iron oxide peroxide
 866891-10-3, Titanium oxide peroxide

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(solns.; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

L131 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:63560 HCAPLUS

DOCUMENT NUMBER: 140:349539

TITLE: Oxygen-17 NMR study of aqueous peroxotungstates

AUTHOR(S): Howarth, Oliver W.

CORPORATE SOURCE: Department of Chemistry, University of Warwick,
 Coventry, CV4 7AL, UK

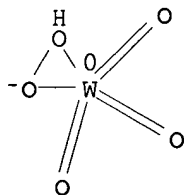
SOURCE: Dalton Transactions (2004), (3), 476-481

CODEN: DTARAF; ISSN: 1477-9226

PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Aqueous peroxotungstates were studied from pH 0.5 to 9.0, over a range of peroxide concns. Although equilibrium are not always established, many anions can be identified by 170 NMR because the ratio of 80(W anion)/80(known Mo anion) is consistently $79 \pm 3\%$. They are $[\text{WO}_3(\text{HO}_2)]^-$, $[\text{WO}(\text{OH})(\text{O}_2)_2]^-$, $[\text{WO}(\text{OH}_2)(\text{O}_2)_2]_0$, $[\text{W}_2\text{O}_3(\text{O}_2)_4]^{2-}$, $[\text{W}_2\text{O}_3(\text{OH})(\text{O}_2)_4]^{3-}$, $[\text{W}_4\text{O}_{12}(\text{O}_2)_2]^{4-}$, $[\text{W}_7\text{O}_{23}(\text{O}_2)]^{6-}$ and $[\text{W}_7\text{O}_{22}(\text{O}_2)_2]^{6-}$. Their pKa values, where measurable, are .apprx.2 units lower than the corresponding peroxomolybdates, e.g. 0.0 for $[\text{WO}(\text{OH}_2)(\text{O}_2)_2]_0$ and 8.0 for $[\text{W}_2\text{O}_3(\text{O}_2)_4]^{2-}$. Other peroxotungstate species are also present but can only be broadly identified. These include Keggin structures with relatively low peroxo content, and a very unsym. anion appearing at pH .apprx.7 that bears no obvious structural relation to any species previously reported. The main product from the reaction of powdered W metal with 30% aqueous peroxide is provisionally identified as the sym. anion $[\text{W}_6\text{O}_{13}(\text{OH})_2(\text{OH}_2)_2(\text{O}_2)_5]^{2-}$, although other minor species are also formed, probably having fewer peroxo substituents.

IT 680575-83-1
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation in **solution** and 170 NMR of)
RN 680575-83-1 HCAPLUS
CN Tungstate(1-), (hydroperoxy- $\kappa\text{O}, \kappa\text{O}'$)trioxo- (9CI) (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 68, 77
IT 74273-21-5 144423-96-1 680575-78-4 680575-79-5 680575-81-9
680575-82-0 680575-83-1
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation in **solution** and 170 NMR of)
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L131 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:19295 HCAPLUS
DOCUMENT NUMBER: 132:86771
TITLE: Source solution and method for forming ferroelectric film, and ferroelectric film itself
INVENTOR(S): Maki, Kazumasa; Soyama, Nobuyuki; Mori, Akira; Kageyama, Kensuke; Matsuura, Masaya; Ogi, Katsumi
PATENT ASSIGNEE(S): Mitsubishi Materials Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

DOCUMENT TYPE: CODEN: JKXXAF
LANGUAGE: Patent
FAMILY ACC. NUM. COUNT: 1 Japanese
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000001396	A2	20000107	JP 1998-167120	19980615
PRIORITY APPLN. INFO.:				19980615

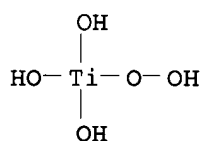
AB A source solution for forming a composite oxide ferroelec. film containing Ti and/or Zr comprises a Ti and/or Zr compound (and/or its partially hydrolyzed or condensation product) and a Ti and/or Zr oxygen complex such as $\text{Ti}(\text{OOH})(\text{OH})_3$. A method for forming a ferroelec. film by coating with the above solution is also described. The ferroelec. film formed by the above method has a uniform surface morphol. and a uniform grain size.

IT 13598-71-5

RL: NUU (Other use, unclassified); USES (Uses)
(source solution and method for forming ferroelec. film, and ferroelec. film itself)

RN 13598-71-5 HCAPLUS

CN Titanium hydroxide peroxide ($\text{Ti}(\text{OH})_3(\text{O}_2\text{H})$), (T-4) - (9CI) (CA INDEX NAME)



IC ICM C30B029-22

ICS H01B003-00; H01B003-12

CC 76-8 (Electric Phenomena)

IT 13598-71-5

RL: NUU (Other use, unclassified); USES (Uses)
(source solution and method for forming ferroelec. film, and ferroelec. film itself)

L131 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:329205 HCAPLUS

DOCUMENT NUMBER: 120:329205

TITLE: Wear mechanism of Cr_2O_3 coating in inorganic salt solutions

AUTHOR(S): Wei, Jianjun; Xue, Qunji

CORPORATE SOURCE: Lanzhou Inst. Chem. Phys., Chin. Acad. Sci., Lanzhou, 730000, Peop. Rep. China

SOURCE: Wuji Cailiao Xuebao (1993), 8(1), 105-10

CODEN: WCXUET; ISSN: 1000-324X

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The friction and wear properties of Cr_2O_3 coatings in inorg. salt

solns. were studied using a block-on-ring tester at ambient conditions. The friction coefficient is ranked from highest to lowest in the order: NaCl, NaNO₃, Na₂SO₄, Na₂B₂O₇, Na₃PO₄, for Na salt solns.; NaCl, MgCl₂, AlCl₃, for chloride salt solns. The wear volume of the block is ranked in descending order as follows: NaCl, Na₂B₂O₇, Na₃PO₄, NaNO₃, Na₂SO₄, for Na salt solns.; NaCl, AlCl₃, MgCl₂, ZnCl₂, for chloride salt solns. The optical micrographs and XPS analyses of the worn surfaces indicate that the wear mechanism of Cr₂O₃ coating in inorg. salt solns. is a combination of several wear modes involving microfracture, tribochem. and abrasive wear.

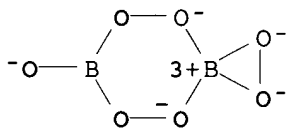
IT 155606-94-3

RL: MSC (Miscellaneous)

(friction and wear of chromia coatings in ag. solns. containing)

RN 155606-94-3 HCAPLUS

CN Borate(2-), [bis(hydroperoxy)hydroxyborato(3-)-
κOO,κOO']peroxy-, disodium, (T-4)- (9CI) (CA INDEX
NAME)



●2 Na⁺

CC 57-2 (Ceramics)

IT 7446-70-0, Aluminum trichloride, miscellaneous 7601-54-9, Sodium phosphate (Na₃PO₄) 7631-99-4, Nitric acid sodium salt, miscellaneous 7646-85-7, Zinc dichloride, miscellaneous 7647-14-5, Sodium chloride (NaCl), miscellaneous 7757-82-6, Sodium sulfate (Na₂SO₄), miscellaneous 7786-30-3, Magnesium dichloride, miscellaneous 155606-94-3

RL: MSC (Miscellaneous)

(friction and wear of chromia coatings in ag. solns. containing)

L131 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1978:57808 HCAPLUS

DOCUMENT NUMBER: 88:57808

TITLE: Study of europium, gadolinium and terbium peroxides

AUTHOR(S): Bogdanov, G. A.; Balyasova, D. P.; Garkushenko, T. L.; Zdesheva, G. F.; Komarova, N. V.; Selivanova, M. N.

CORPORATE SOURCE: Mosk. Tekst. Inst., Moscow, USSR

SOURCE: Deposited Doc. (1975), VINITI 3708-75, 10 pp.
Avail.: VINITI

DOCUMENT TYPE: Report

LANGUAGE: Russian

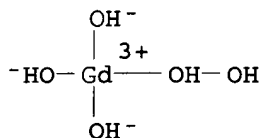
AB Dehydration of Eu, Gd, and Tb hydroxide hydroperoxide hydrates in vacuum did not result in the loss of H₂O₂ from the compds. The rare earth hydroxide hydroperoxide hydrates decompose in H₂O with the loss of H₂O₂.

IT 65546-23-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration and **solution** decomposition of)

RN 65546-23-8 HCAPLUS

CN Gadolinium, (dihydrogen monoperoxide-O)trihydroxy-, hydrate (9CI)
(CA INDEX NAME)



●x H₂O

CC 78-9 (Inorganic Chemicals and Reactions)

IT 65546-23-8 65546-24-9 65546-25-0
65606-52-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration and **solution** decomposition of)

L131 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1969:507588 HCAPLUS

DOCUMENT NUMBER: 71:107588

TITLE: Pulse radiolysis study of some unstable
complexes of iron

AUTHOR(S): Jayson, G. G.; Keene, J. P.; Stirling, D. A.;
Swallow, A. J.

CORPORATE SOURCE: Christie Hosp., Manchester, UK

SOURCE: Transactions of the Faraday Society (1969),
65(9), 2453-64

CODEN: TFSOA4; ISSN: 0014-7672

DOCUMENT TYPE: Journal

LANGUAGE: English

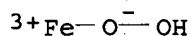
AB Pulse radiolysis of O-containing solns. of ferrous perchlorate in HClO₄
(M) enables the formation and disappearance of a ferric
hydroperoxide complex, Fe³⁺+HO₂⁻, to be observed. The rate constant
for its formation by reaction of HO₂ radicals with free ferrous ions
is 2.1 ± 0.4 × 10⁶ M⁻¹ sec.⁻¹ at pH 0-2.1. The complex
disappears in a 1st-order reaction with a rate constant independent of
pH in the range 0-2.1. It exhibits a broad absorption in the region
280-600 nm., with ε_{430 nm} = 280 ± 30 M⁻¹ cm.⁻¹ In the
absence of O, a different absorbing species can be seen, attributed
to a ferric hydride complex, Fe³⁺+H⁻. This is formed by the reaction
of H atoms with free ferrous ions with k = 7.5 ± 2 × 10⁶ M⁻¹
sec.⁻¹ It disappears by reaction with H ions, with k = 1.06 ±
0.1 × 10⁴ M⁻¹ sec.⁻¹ Its absorption spectrum exhibits a maximum
at 325 nm., ε₃₂₅ = 650 ± 65 M⁻¹ cm.⁻¹

IT 12299-70-6P

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in pulse radiolysis of ferrous perchlorate
solns.)

RN 12299-70-6 HCAPLUS

CN Iron(2+), (hydroperoxy)- (9CI) (CA INDEX NAME)



CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 IT 12299-70-6P 18257-01-7P

RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in pulse radiolysis of ferrous perchlorate
 solns.)

L131 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1950:40276 HCAPLUS

DOCUMENT NUMBER: 44:40276

ORIGINAL REFERENCE NO.: 44:7700c-f

TITLE: Combination of metal oxide hydrates with
 hydrogen peroxide in alkaline solution;
 influence of the resulting products on the
 stabilization or the decomposition of these
 solutions

AUTHOR(S): Pierron, P.

CORPORATE SOURCE: Faculte sci., Lyon, Fr.

SOURCE: Bulletin de la Societe Chimique de France (1950)
 291-3

CODEN: BSCFAS; ISSN: 0037-8968

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 44, 2355e. Oxidizing power and percentages of metal and
 H₂O were determined on the solid present at the beginning and end of
 decompns. performed at room temperature and 60-5°, in solns. in 0.5
 N, N, and 3 N NaOH, and with initial metal ion concns. of M/125 and
 M/400 in 100 mL. H₂O₂. When the solid formed is a hydrated
 peroxide, the evolution of O₂ is retarded. The nascent O probably
 causes formation in these cases of M(OOH)₂, where M = metal, which
 must then be hydrolyzed to free O₂. The retardation is most
 striking at higher temps. and higher concns. of H₂O₂. Metals so
 behaving with the reported solid states are: Mg (MgO₂.H₂O and
 MgO₂.H₂O + 0.5-2.0 Mg(OH)₂); Ca and Ba (MO₂.H₂O alone or mixed with
 varying ratios of MO₂.H₂O₂ and MO.H₂O); and Sn (Sn₂O₇.3H₂O at room
 temperature, SnO₃.2H₂O at 60-65°). At room temperature with N NaOH and
 M/125 Zn forms ZnO₂.H₂O, and evolution is retarded. At M/400 Zn,
 the solid is Zn₂O₃.H₂O, and at 60° it is Zn₃O₅.H₂O; as the
 solid is less hydrated, the retarding is less and there may be
 acceleration. Acceleration is always observed for oxides that are only
 partially hydrated and is greatest for the anhydrous oxides, HgO and
 Ag₂O. Metals of this type with the formula of the room-temperature solid
 and of the 60° solid, resp., are: Ni(NiO₂.10NiO.6H₂O,
 10NiO.5H₂O); Mn (MnO₂.5MnO.3H₂O, MnO₂.6MnO.2.2H₂O); Pb
 (PbO₂.7PbO.2H₂O, PbO₂.10PbO.2H₂O); Cu (CuO₂.3CuO.H₂O, 10CuO.2H₂O).

IT 866891-14-7, Tin peroxide
 (formation in alkaline H₂O₂ solns.)

RN 866891-14-7 HCAPLUS

CN Tin peroxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO ₂	x	14691-59-9
Sn	x	7440-31-5

CC 6 (Inorganic Chemistry)

IT 14452-57-4, Magnesium peroxide, MgO₂ 866891-14-7, Tin
peroxide
(formation in alkaline H₂O₂ solns.)

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L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:1132948 HCAPLUS
 DOCUMENT NUMBER: 143:391175
 ENTRY DATE: Entered STN: 21 Oct 2005
 TITLE: Metal oxide peroxide films for adhesive
 compositions coated on microparticle substrates
 INVENTOR(S): Andrews, John W.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 16 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 INT. PATENT CLASSIF.:
 MAIN: C08K003-08
 US PATENT CLASSIF.: 524439000; 428402000; 428702000; 428332000;
 428403000
 CLASSIFICATION: 57-2 (Ceramics)
 Section cross-reference(s): 38, 67
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005234178	A1	20051020	US 2004-826565	20040416
WO 2005118694	A2	20051215	WO 2005-US12620	20050413
WO 2005118694	A3	20061026		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			US 2004-826565	A 20040416

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005234178	ICM	C08K003-08
	INCL	524439000; 428402000; 428702000; 428332000; 428403000
	IPCI	C08K0003-08 [ICM,7]; C08K0003-00 [ICM,7,C*]
	IPCR	C08K0003-00 [I,C*]; C08K0003-08 [I,A]
	NCL	524/439.000; 428/332.000; 428/402.000; 428/403.000; 428/702.000

WO 2005118694 IPCI B32B0005-16 [I,C]; B32B0005-16 [I,A]
 IPCR C08K0003-00 [I,C*]; C08K0003-08 [I,A]

ABSTRACT:

Adhesive coating compns. containing a metal peroxide (of group II and III metals) are used to produce clear colorless adhesive coatings on substrates, particularly micro-particulates. The nanoparticle coatings are chemical-active and function at a high level of efficiency due to the high total surface area of the micro particulate substrate.

SUPPL. TERM: titanium oxide peroxide adhesive coating nanoparticle
 substrate photocatalyst

INDEX TERM: Glass microspheres
 ROLE: TEM (Technical or engineered material use); USES
 (Uses)

(hollow, substrates; metal oxide peroxide films for
 adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Glass substrates
 (metal oxide peroxide films for adhesive compns.
 coated on microparticle substrates)

INDEX TERM: Peroxides, processes
 ROLE: PEP (Physical, engineering or chemical process);
 PYP (Physical process); PROC (Process)
 (metal-oxy-; metal oxide peroxide films for
 adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Polycarbonates, processes
 ROLE: PEP (Physical, engineering or chemical process);
 PYP (Physical process); TEM (Technical or engineered
 material use); PROC (Process); USES (Uses)
 (particles in coating compns.; metal oxide peroxide
 films for adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Soda-lime glasses
 ROLE: CAT (Catalyst use); PEP (Physical, engineering
 or chemical process); PYP (Physical process); PROC
 (Process); USES (Uses)
 (peroxide-coated, spheres; metal oxide peroxide
 films for adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Catalysts
 (photochem., substrates; metal oxide peroxide films
 for adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Glass microspheres
 ROLE: TEM (Technical or engineered material use); USES
 (Uses)
 (soda-lime, peroxide-coated; metal oxide peroxide
 films for adhesive compns. coated on microparticle
 substrates)

INDEX TERM: Adhesive films
 Bricks
 Ceramics
 Concrete
 Leather
 Masonry
 Nanoparticles
 Pigments, nonbiological
 Skin
 Textiles

Wood

(substrates; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

Asbestos

Asphalt

Kaolin, uses

Metals, uses

Mica-group minerals, uses

Polymers, uses

Rubber, uses

ROLE: TEM (Technical or engineered material use); USES (Uses)

(substrates; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

13463-67-7, Titanium dioxide, processes

ROLE: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(amorphous films; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

20338-08-3, Titanium tetrahydroxide

ROLE: RCT (Reactant); RACT (Reactant or reagent)

(metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

1304-76-3, Bismuth oxide (Bi₂O₃), processes

1306-19-0, Cadmium oxide (CdO), processes 1306-38-3,

Cerium oxide (CeO₂), processes 1309-37-1, Ferric oxide, processes 1312-43-2, Indium oxide (In₂O₃)

1313-99-1, Nickel oxide (NiO), processes 1314-13-2,

Zinc oxide (ZnO), processes 1314-23-4, Zirconium oxide (ZrO₂), processes 1314-35-8, Tungsten oxide (WO₃), processes 1314-61-0, Tantalum oxide (Ta₂O₅)

1317-39-1, Cuprous oxide, processes 7631-86-9,

Silica, processes 12030-85-2, Potassium niobium oxide (KNbO₃) 12036-10-1, Ruthenium oxide (RuO₂)

12047-27-7, Barium titanate (BaTiO₃), processes

12060-59-2, Strontium titanate (SrTiO₃)

ROLE: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(nanoparticles in coating compns.; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

9003-01-4D, Polyacrylic acid, derivs.

ROLE: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(particles in coating compns.; metal oxide peroxide films for adhesive compns. coated on microparticle substrates)

INDEX TERM:

54615-43-9, Aluminum peroxide (Al(O₂H)₃) 866891-11-4

866891-12-5 866891-13-6, Vanadium peroxide

866891-14-7, Tin peroxide 866891-16-9, Selenium

peroxide 866891-18-1, Platinum peroxide

866891-20-5 866891-22-7 866891-24-9 866891-26-1,

Iron peroxide

ROLE: CPS (Chemical process); PEP (Physical,

engineering or chemical process); PROC (Process)
 (precursor; metal oxide peroxide films for adhesive
 compns. coated on microparticle substrates)
 INDEX TERM: 866890-99-5, Hafnium oxide peroxide 866891-00-1,
 Zirconium oxide peroxide 866891-01-2, Vanadium oxide
 peroxide 866891-02-3, Tin oxide peroxide
 866891-03-4, Selenium oxide peroxide 866891-04-5,
 Platinum oxide peroxide 866891-05-6, Yttrium oxide
 peroxide 866891-06-7, Lanthanum oxide peroxide
 866891-07-8, Scandium oxide peroxide 866891-08-9,
 Aluminum oxide peroxide 866891-09-0, Iron oxide
 peroxide 866891-10-3, Titanium oxide peroxide
 ROLE: PEP (Physical, engineering or chemical process);
 PYP (Physical process); PROC (Process)
 (solns.; metal oxide peroxide films for adhesive
 compns. coated on microparticle substrates)
 INDEX TERM: 471-34-1, Calcium carbonate, uses
 ROLE: TEM (Technical or engineered material use); USES
 (Uses)
 (substrates; metal oxide peroxide films for
 adhesive compns. coated on microparticle
 substrates)

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L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Cerium oxide (CeO₂) (8CI, 9CI)
 MF Ce O₂
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

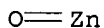
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):42

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Indium oxide (In₂O₃) (6CI, 8CI, 9CI)
 MF In₂ O₃
 CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

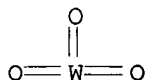
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Zinc oxide (ZnO) (9CI)
 ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
 MF O Zn
 CI COM



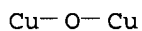
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Tungsten oxide (WO₃) (6CI, 7CI, 8CI, 9CI)
MF O₃ W
CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

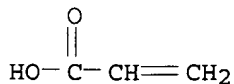
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Copper oxide (Cu₂O) (8CI, 9CI)
MF Cu₂ O
CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN 2-Propenoic acid, homopolymer (9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF (C₃ H₄ O₂)_x
CI PMS, COM

CM 1



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Ruthenium oxide (RuO₂) (6CI, 8CI, 9CI)
MF O₂ Ru
CI COM



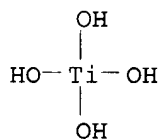
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Strontium titanium oxide (SrTiO₃) (8CI, 9CI)
 MF O3 Sr Ti
 CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Titanium hydroxide (Ti(OH)₄), (T-4)- (9CI)
 MF H4 O4 Ti
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Hafnium oxide peroxide (9CI)
 MF H O2 . Hf . O
 CI TIS

Component	Ratio
O	x
HO2	x
Hf	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Vanadium oxide peroxide (9CI)
 MF H O2 . O . V
 CI TIS

Component	Ratio
O	x
HO2	x
V	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Selenium oxide peroxide (9CI)
 MF H O2 . O . Se
 CI TIS

Component	Ratio
O	x
HO2	x
Se	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Yttrium oxide peroxide (9CI)
 MF H O2 . O . Y
 CI TIS

Component	Ratio
O	x
HO2	x
Y	x

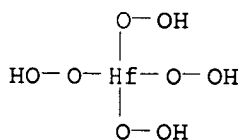
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Scandium oxide peroxide (9CI)
 MF H O2 . O . Sc
 CI TIS

Component	Ratio
O	x
HO2	x
Sc	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Iron oxide peroxide (9CI)
 MF Fe . H O2 . O
 CI TIS

Component	Ratio
O	x
HO2	x
Fe	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Hafnium, tetrakis(hydroperoxy)-, (T-4)- (9CI)
 MF H4 Hf O8



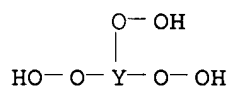
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Vanadium peroxide (9CI)
 MF H O2 . V
 CI TIS

Component	Ratio
HO2	x
V	x

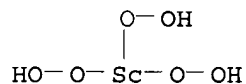
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Selenium peroxide (9CI)
 MF H O2 . Se
 CI TIS

Component	Ratio
HO2	x
Se	x

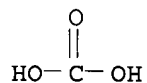
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Yttrium, tris(hydroperoxy)- (9CI)
 MF H3 O6 Y



L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Scandium, tris(hydroperoxy)- (9CI)
 MF H3 O6 Sc



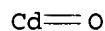
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Carbonic acid calcium salt (1:1) (8CI, 9CI)
 ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
 MF C H2 O3 . Ca
 CI COM



● Ca

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Cadmium oxide (CdO) (9CI)
MF Cd O
CI COM



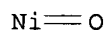
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Iron oxide (Fe2O3) (8CI, 9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF Fe2 O3
CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

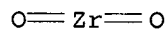
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Nickel oxide (NiO) (8CI, 9CI)
MF Ni O
CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Zirconium oxide (ZrO2) (8CI, 9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF O2 Zr
CI COM



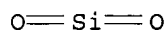
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Tantalum oxide (Ta2O5) (8CI, 9CI)
MF O5 Ta2
CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Silica (6CI, 7CI, 8CI, 9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF O2 Si
CI .COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Niobium potassium oxide (NbKO3) (9CI)
MF K . Nb . O
CI COM, TIS

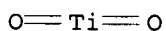
Component	Ratio
-----+-----	
O	3
K	1
Nb	1

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Barium titanium oxide (BaTiO3) (8CI, 9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF Ba O3 Ti
CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

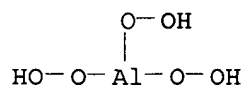
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Titanium oxide (TiO2) (8CI, 9CI)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT
MF O2 Ti
CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Aluminum peroxide (Al(O2H)3) (9CI)
MF Al H3 O6



L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Zirconium oxide peroxide (9CI)
 MF H O2 . O . Zr
 CI TIS

Component	Ratio
O	x
HO2	x
Zr	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Tin oxide peroxide (9CI)
 MF H O2 . O . Sn
 CI TIS

Component	Ratio
O	x
HO2	x
Sn	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Platinum oxide peroxide (9CI)
 MF H O2 . O . Pt
 CI TIS

Component	Ratio
O	x
HO2	x
Pt	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Lanthanum oxide peroxide (9CI)
 MF H O2 . La . O
 CI TIS

Component	Ratio
O	x
HO2	x
La	x

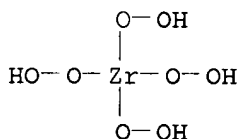
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Aluminum oxide peroxide (9CI)
 MF Al . H O2 . O
 CI TIS

Component	Ratio
O	x
HO2	x
Al	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Titanium oxide peroxide (9CI)
 MF H O2 . O . Ti
 CI TIS

Component	Ratio
O	x
HO2	x
Ti	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Zirconium, tetrakis(hydroperoxy)-, (T-4)- (9CI)
 MF H4 O8 Zr



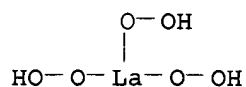
L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Tin peroxide (9CI)
 MF H O2 . Sn
 CI TIS

Component	Ratio
HO2	x
Sn	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Platinum peroxide (9CI)
 MF H O2 . Pt
 CI TIS

Component	Ratio
HO2	x
Pt	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Lanthanum, tris(hydroperoxy)- (9CI)
 MF H3 La O6



L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Iron peroxide (9CI)
MF Fe . H O2
CI TIS

Component	Ratio
HO2	x
Fe	x

L2 43 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Bismuth oxide (Bi2O3) (8CI, 9CI)
MF Bi2 O3
CI COM, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

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